Motor Fuel XML Implementation Guide

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Overview

The South Carolina Department of Revenue (SCDOR) has created this guide to provide software developers with the information needed to develop Motor Fuel XML software for South Carolina's Supplier, Terminal Operator, and Transporter (Carrier) returns.

As a developer, you must complete the SCDOR's testing process. You will be assigned a unique Software ID during this process. Your assigned Software ID must be included in XML files your software generates for a return to be accepted in our state.

Extensible Markup Language (XML)

XML is a language much like HTML that describes data by using "tags." The Federation of Tax Administrators' (FTA) Motor Fuel Uniformity Sub-committee, through the assistance of Tax Information Group for EC Requirements Standardization (TIGERS), has designed a standard schema set to be used for reporting return information supported by the Uniformity effort.

The SCDOR has adopted the Federation of Tax Administrators' (FTA) Motor Fuel Uniformity Electronic Commerce Committee's standard XML schema.

The following return types can be developed and submitted by XML to the SCDOR:
- Supplier and Permissive Supplier
- Terminal Operator (In-state and Out-of-state)
- Transporter (Carrier)

You must develop your software product in accordance with the Motor Fuel Uniformity schema version MFET4.2 and the South Carolina schema requirements and validation rules provided in this document.

General Filing Information

The SCDOR requires all Motor Fuel tax returns to be filed electronically. All Motor Fuel returns are filed through MyDORWAY, our free online tax portal, but different options exist depending on the type of Motor Fuel return being filed. For information on every electronic filing option that taxpayers have in our state, visit dor.sc.gov/biz-services.

Contact Information

Questions? We're here to help.

Software Developer XML Support…………………………………………………XML@dor.sc.gov or 803-896-1715
Motor Fuel Tax/Taxpayer Support……………………………………MotorFuel@dor.sc.gov or 803-896-1990

Technical Format Specifications

FTA Uniformity Schema – XML

The FTA's Electronic Commerce Subcommittee encourages all tax authorities to comply with a uniform electronic reporting system by adopting the FTA Motor Fuel Uniformity Electronic Commerce Committee standards for all electronic data exchange. South Carolina conforms to the FTA's MFETv4.2 schema.

⬇ [FTA Uniformity XML Motor Fuels Schema](#)

SC Schema Requirement Details

This spreadsheet follows the sequence of data within each return-specific schema. Each tab within the spreadsheet lists which FTA schema elements are required for Motor Fuel returns in South Carolina.

The Details document for the SC Schema Requirements outlines the following sections of the FTA schema:

- Motor Fuels Header
- Terminal Operator Report
- Supplier Report
- Carrier Report
- Financial Transaction

⬇ [SC Schema Requirement Details](#)

Table Column Definitions include:

- Element: Name of Schema element.
- XPath: The path one must follow from the root element to this element.
- FTA Schema: Required/ Optional/ Choice per the FTA's uniformity schema. The FTA's schema is designed to allow states to adopt what is needed for their state. This column will contain an "R" for Required, "O" for Optional, or "C" for Choice based on the FTA schema.
- South Carolina: Required/ Required Choice/ Optional Choice/ Optional/ Not Preferred per the state's return needs. This column contains critical information specific to the SCDOR's Motor Fuel return filing requirements.
  - o Required: The element is required for SC.
  - o Required Choice: One of the element choices is required for SC. See the Choice Group column.
  - o Optional Choice: This designation is not currently used.
  - o Optional: If an optional element has child elements, they can be ignored if it is not necessary to submit the parent element. If an optional element is submitted, any children

listed as 'required' must then be submitted.

- o Not Preferred: The element is not required by SC. It may be included in the XML file, if collected from your client. However, it will be ignored by SC for return processing and will not generate an error.

- Description: Contains details about the element's format, the data expected in the element, etc. A specific explanation for SC may be included for clarity.
- Parent: Used to denote an element that has child elements. Contains an identifier used to link to those elements.
- Child Of: Used to denote an element that has a parent element. Contains an identifier used to link to that element.
- Choice Group: Used to denote an element that is part of a 'choice group,' or several elements where one or none of them needs to be selected. This column will indicate how the choice is structured by the schema.

The sequence of the data in the XML file differs from the paper return. The FTA made a conscious decision to organize the XML schema data in a "logical" vs. "paper return" based structure. To view the SCDOR's paper return samples and instructions, see the Reference Resources provided at the end of this guide. **Please note: The SCDOR does not accept paper returns as a filing option. All South Carolina Motor Fuel returns must be filed electronically.**

XML Sample Files

Do not create your software using the sample XML files without reviewing our SC Schema Requirement Details and Validation + Business Rules documents. Our XML samples are intended to help you ensure your XML files are correctly structured according to our state's requirements, reducing formatting errors.

⬇ Supplier Sample XML

⬇ Terminal Operator Sample XML (In-state)

⬇ Terminal Operator Sample XML (Out-of-state)

⬇ Transporter/ Carrier Sample XML

⬇ Amended Supplemental Return Sample XML (using Supplier)

SC Schedule, Mode, and Product Code Tables

These tables are provided to accurately classify South Carolina schedule codes, mode codes, and product codes that you must use in your XML file. Without these, you cannot correctly construct valid XML submissions.

[⬇] [SC Schedule, Mode, and Product Code Tables](#)

Validation + Business Rules

Validation pre-checks ensure that incoming XML data requirements are met, complete, and conform to expected formats (e.g., date formats, numeric ranges). This prevents invalid data from entering the system. These pre-checks are intended to provide you with precise constraints and rules, reducing ambiguity and ensuring XML files that your software produces meet our required standards.

The SC Validation + Business Rules spreadsheet outlines return-specific rules, conditions, and associated error messages. A tab is provided for each return type.

[⬇] [Validation + Business Rules](#)

Additional Software Guidance

General Rules
Return Calculations
The return instructions, provided in the Resource section of this guide, include the details of the calculations required for each return.

Separate Return Files Required
The XML file cannot include more than one return.

Supplemental Amended Returns
South Carolina only accepts supplemental amended returns. Ensure XML files for amended returns only include transactions that need to be added or removed to correct the filer's original return.

No Activity (Zero) Returns
XML files for no activity (zero) returns should not be developed by software products. South Carolina does not accept an XML file for a no activity return. Filers have an option to file a zero return in MyDORWAY if needed.

Penalty and Interest
Do not include penalty and interest in the XML file. MyDORWAY will calculate and bill filers for any applicable penalty and interest amounts.

Return Information for Suppliers

Tare Allowance Calculation

See the Supplier return instructions, provided in the Resource section of this guide, for details on calculating the tare allowance.

- Suppliers are allowed a tare allowance deduction not to exceed $2,000 per month for gasoline and special fuel combined on sales to non-eligible purchasers reported on Supplier Schedule 5A. Gasoline tare allowance should be calculated first. Any remaining tare not to exceed the maximum is allowed for the special fuel.
- Tare allowance deductions are not included in the XML file. The SCDOR will calculate this deduction at the time the file is uploaded based on the schedule details.

Administrative Allowance

See the Supplier return instructions provided in the Resource section of this guide, for details on calculating the administrative allowance.

- An administrative allowance of one-tenth percent (0.001) of the gasoline and special fuel user fees is allowed to be deducted from the user fees due.
- Administrative allowance deductions are not included in the XML file. The SCDOR will calculate this deduction at the time the file is uploaded based on the schedule details.

Supplemental Supplier Amended Returns Allowance Calculations

You must adjust the allowance calculations when amending a Supplier return.

- Tare Allowance Adjustments
  - If Schedule 5A is affected by the amendment, the tare allowance must be recalculated based on the original return and all prior amendments, not to exceed $2,000 per month for gasoline and diesel combined. If the Schedule 5A gallons are reduced, the tare allowance originally allowed for those gallons must be added back on the amendment.
- Administrative Allowance Adjustments
  - If Schedule 5A or Schedule 5C are affected by the amendment, the administrative allowance must be recalculated. Amendments that reduce the user fee liability for the month must calculate the administrative allowance on the user fees removed and add the allowance back on the amended return.

Other Credit

Other credit deductions rarely occur.

- Other credits are not included in the XML file. Filers are provided with an option to manually enter other credits after the file is uploaded in MyDORWAY.

Reporting Late Loads and Other Suppler Adjustments

A Supplier may include late loads and other adjustments in the current month's return if the original transaction date occurred in the month immediately prior to the current month. You must file an amended return for all other late loads and adjustments. See SC Revenue Procedure #18-1, available at **dor.sc.gov/policy**, for more information.

Return Information for Terminal Operators

Reporting for South Carolina Terminal Locations

Terminal Operators must report inventory for their South Carolina terminal locations.

- **Beginning Inventory** – XML files are not required to include beginning inventory.
  - On their first return, Terminal Operator filers are required to manually enter their beginning inventory in MyDORWAY after they upload their XML file. MyDORWAY will automatically populate the beginning inventory on subsequent returns. If the XML file includes the beginning inventory, it will not be extracted from the file for posting.
- **Physical Ending Inventory** – XML files must include ending inventory.
  - Ending inventory is required for every product type reported on the receipt Schedule 15A and the disbursement Schedule 15B, even if the ending inventory is zero for the product type.

Reporting for Out of State Terminal Locations

Terminal Operators must only report Schedule 15B disbursements with a South Carolina destination on their monthly returns. Out-of-state Terminal returns should not include Schedule 15A transactions, ending inventories, or destinations that are not in South Carolina.

Book Adjustments

Rebranding of products should be reported with a mode of BA to indicate a book adjustment for the transaction. Rebranding is the above-the-rack transfer of one product type into a different product type. The book adjustments will reflect a terminal Schedule 15B disbursement of the existing product type and a Schedule 15A receipt of the new product type. The product codes will be different for the two product types. But the total gallons will be the same.

Example

Book adjustments for rebranding low sulfur undyed diesel fuel product code 167 into low sulfur dyed diesel fuel product code 227.

Schedule 15B disbursements:

```xml
<TerminalOperatorSchedule>
    <ScheduleCode>15B</ScheduleCode>
    <ProductCode>167</ProductCode>
    <Mode>BA</Mode>
    <DocumentNumber>BOOK5678</DocumentNumber>
    <ReceivedShippedDate>2026-01-15</ReceivedShippedDate>
    <Origin>
        <TerminalCode>T57SC2067</TerminalCode>
    </Origin>
    <Destination>
        <TerminalCode>T57SC2067</TerminalCode>
    </Destination>
    <Seller>
        <FEIN>123456789</FEIN>
        <Name>APRIL OIL</Name>
    </Seller>
    <Net>200</Net>
    <Gross>200</Gross>
    <PositionHolder>
        <FEIN>123456789</FEIN>
        <Name>APRIL OIL</Name>
    </PositionHolder>
</TerminalOperatorSchedule>
```

Schedule 15A receipts:

```xml
<TerminalOperatorSchedule>
    <ScheduleCode>15A</ScheduleCode>
    <ProductCode>227</ProductCode>
    <Mode>BA</Mode>
    <DocumentNumber>BOOK1234</DocumentNumber>
    <ReceivedShippedDate>2026-01-15</ReceivedShippedDate>
    <Origin>
        <TerminalCode>T57SC2067</TerminalCode>
    </Origin>
    <Destination>
        <TerminalCode>T57SC2067</TerminalCode>
    </Destination>
    <Net>200</Net>
    <Gross>200</Gross>
    <PositionHolder>
        <FEIN>123456789</FEIN>
        <Name>APRIL OIL</Name>
    </PositionHolder>
</TerminalOperatorSchedule>
```

After completing the book adjustment, there are now 200 gallons of low sulfur dyed diesel that can be sold and reported as a disbursement on Schedule 15B.

Return Information Specific for Transporters

The SCDOR has identified two common reporting errors made by transporters. Software developers may be able to provide warnings, or validation checks, inside their product to help reduce these mistakes.

- **Seller Reporting** – Transporters should report the Supplier listed on the terminal-issued bill of lading as the "Seller".
- **Origin Reporting** – When a Transporter loads product at an IRS-registered terminal location, the IRS terminal code must be reported as the "Origin".

Testing and Certification

The SCDOR requires you to certify your software with our agency through testing prior to the release of your software to South Carolina taxpayers. Software developers must complete a D-154, Software Developer Application - Motor Fuel XML, and email it to XML@dor.sc.gov. If you are a filer who is developing your own software product, you must complete certification with our agency prior to filing your first XML return file.

After the SCDOR has approved your application and you have developed your software using the resources provided within this Implementation Guide, you are ready to test. Contact the SCDOR at XML@dor.sc.gov for our state's test package and additional information on our testing process.

Our testing process generally includes testing the following filing scenarios for each return type supported by your product:

- Original (test cases provided)
- Amended (test cases provided)
- Free test (request for software provider to submit a test of their own creation with at least 20 transactions)

You are required to recertify with our agency any time the SCDOR has a schema change. Generally, these changes are infrequent; however, if they occur, you will be required to submit a new D-154 application, and you must retest to ensure your software meets the latest schema requirements.

Additionally, you are encouraged to notify the SCDOR of independent-version changes to your software by resubmitting a D-154 application and selecting the appropriate designation. You may be required to undergo additional testing with the SCDOR to ensure accuracy and reliability for your users.

Production Returns

MyDORWAY Online Filing Portal

The following production information is provided to help you understand what your clients are required to do to upload their XML files with South Carolina. If your business operations include filing services on behalf of clients, the information below should be used to file production returns in our state.

To submit production returns:
1. Log into MyDORWAY at MyDORWAY.dor.sc.gov.
    a. Tax Account Manager or Owner-access users will then navigate to their respective Account type (Supplier, Transporter, Terminal Operator).
2. Select **View Returns and Periods**.
3. Click **File Return** next to the applicable period.
4. Follow the prompts to upload.
5. MyDORWAY provides a confirmation number for successful uploads. We recommend retaining this number in your records.
    a. To view a history of your XML file upload before it is processed:
        i. Click the **More** tab
        ii. Select **Submissions**. This history will be available in MyDORWAY until the file is processed overnight.
    b. Once the SCDOR has processed your XML file, you can view your return by:
        i. Clicking **View Returns and Periods**
        ii. Selecting the **Returns** tab

iii. Clicking **View or Amend Return** next to the applicable period.

Payment Options

Motor Fuel taxpayers have three payment options.

1) ACH Credit
   - Paying by ACH credit requires the filer to instruct their bank (or financial institution) to originate an ACH transfer to the SCDOR's bank.
   - XML return files do not need to declare an ACH credit payment designation within the Financial Transaction element.
   - Filers can apply on MyDORWAY, the SCDOR's free online tax portal, to obtain the required record addenda layout and banking information to complete your transaction.
   - Review the SCDOR ACH Credit Instructions to learn more.

2) Return XML ACH Debit
   - Paying by Return XML ACH debit requires the filer's software to embed their payment information within their return XML file.
   - Software Developers must adhere to the requirements of the Financial Transactions element of the schema, if a filer chooses this payment method.

3) MyDORWAY
   - We recommend making payments on MyDORWAY, the SCDOR's free online tax portal.
   - When filing on MyDORWAY, you have the option to pay as soon as you've filed your return.
   - MyDORWAY accepts the following payment types:
     - Credit card (Visa, Mastercard, American Express, Discover)
     - ACH Debit (also known as e-check Electronic Funds Withdrawal)

Error Handling

In the event of any schema errors, taxpayers will be referred to their software provider for assistance. The SC Validation + Business Rules spreadsheet provided earlier details current error messages for filers with XML issues.

Declaration and Root Element Requirements

All XML files should begin with an XML declaration line and follow with the below XML namespaces within the opening tag of the MotorFuelsFiling root element.

```
<?xml version="1.0" encoding="UTF-8"?>
<MotorFuelsFiling xmlns="http://www.irs.gov/efile" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
```

- If the lines are not included at the top of your XML file, filers will see a list of errors pertaining to every Header element because the system is not able to read the rest of the file. Errors presented include:

- o Error in MotorFuelsHeader. Jurisdiction is required.
- o Error in MotorFuelsHeader. Timestamp is required.
- o Error in MotorFuelsHeader. TaxPeriodEndDate is required.
- o Error in MotorFuelsHeader. SoftwareId is required.
- o Error in MotorFuelsHeader. SoftwareVersion is required.
- o Error in MotorFuelsHeader. FilerFEIN or FilerSSN is required.
- o Error in MotorFuelsHeader. StateLicenseNumber is required.
- o Error in MotorFuelsHeader. FilerName is required.

General Schema Error Message Examples

- Missing a required element:
  - o Error on Line: 1742 Position: 14 The 'http://www.irs.gov/efile:State' element is invalid - The value '' is invalid according to its datatype 'http://www.irs.gov/efile:MFStateOnlyType' - The Enumeration constraint failed.
    - **Error on Line: 1742** – This example indicates that the schema error occurs on Line 1742 when the file is opened in a text editor program and viewed as a TXT file.
    - **'http://www.irs.gov/efile:State'** – The element with an error is shown at the end of the http://www.irs.gov/efile: line. In this example, the issue is for the 'State' tag in the XML file.
    - **The value ''** – The value displayed in between the apostrophes displays what was received in the XML file. In this example, since there was nothing present between the '', this indicates the field was missing, or had no value recorded, inside the XML file.
- Invalid beginning tag:
  - o Error on Line: 18 Position: 5 The element 'SupplierSchedule' in namespace 'http://www.irs.gov/efile' has invalid child element 'ScheduleCod' in namespace 'http://www.irs.gov/efile'. List of possible elements expected: 'ScheduleCode' in namespace 'http://www.irs.gov/efile'.
    - **Error on Line: 18** – This example indicates that the schema error occurs on Line 18 when the file is opened in a text editor program and viewed as a TXT file.
    - **Invalid child element 'ScheduleCod'** – This example indicates the issue is a misspelled beginning tag. The error message proceeds to offer possible elements expected in this situation.
- Missing an ending tag:
  - o Error on Line: 18 Position: 21 The element 'http://www.irs.gov/efile:ScheduleCode' cannot contain child element 'http://www.irs.gov/efile:ScheduleCode' because the parent element's content model is text only.
    - **Error on Line: 18** – This example indicates that the schema error occurs on Line 18 when the file is opened in a text editor program and viewed as a TXT file.
    - **'http://www.irs.gov/efile:ScheduleCode'** – The element with an error is shown at the end of the http://www.irs.gov/efile: line. In this example, the issue is for the 'ScheduleCode' tag in the XML file.

Reference Resources

Resource Name	Description	Link to Resource
Schema Package	FTA Motor Fuels Excise Tax XML (MFETv4.2)	[Download](#)
SC Schema Requirement Details	State-specific requirements for Uniformity schema	[Download](#)
XML Sample Files	State sample XML formatted return files	Supplier Sample In-state Terminal Sample Out-of-state Terminal Sample Transporter Sample Amended Sample
Schedule, Mode, and Product Code Tables	Valid state return schedule, mode and product code lists	[Download](#)
Validation + Business Rules	List of XML state-specific rules, conditions, and error messages	[Download](#)
Paper Returns and Instructions	State returns and instructions for Supplier, Terminal Operator, and Transporter	[Download Supplier](#) [Download Terminal](#) [Download Transporter](#)
Taxpayer Filer Guide	Guide provided to taxpayers detailing the file upload options for South Carolina	*Under revision*
SCDOR Motor Fuel License, Refunds & Exemptions, Requirements & FAQs Webpages	Information for filers published on the SCDOR public website	[dor.sc.gov/tax-index/motor-fuel](#)